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state will doubtless always be an interesting subject for speculation. The most satisfactory hypothesis for the origin of maize, and that which has been until this time rather generally accepted, derives it from the teosinte (Euchlaena). It has been thought that the ear was formed by an abnormal coalescence of the pistillate spikes of that plant. The ease with which maize and teosinte may be crossed gives strong support to the theory that they are nearly related.

An altogether different view of the origin of the pistillate spike of maize is presented by MONTGOMERY[10] and much evidence is given in its support. His hypotheses are that the ear of corn is the homologue of the central spike of the staminate inflorescence; and that the progenitor of maize was a much branched plant, bearing only terminal branched inflorescences of bisporangiate flowers. The chief support of these hypotheses is derived from abnormal development of pistillate and bisporangiate flowers in the staminate inflorescence, and *vice versa*. A number of photographs show these abnormalities and *fig. 14* represents a plant, denuded of its leaves, showing that the same number of internodes intervene between the central axis and the ear as are found between the ear and the tassel. Nothing in this new interpretation of the pistillate spike of maize need lessen the conviction of its near relationship with Euchlaena.—GEORGE H. SHULL.

The laws of inheritance.—CORRENS[11] has published a lecture on the laws of inheritance which presents in a very satisfactory manner the recent advances which have been made in this discipline. He would include in hybridization every union between two germ-cells having one or more different character-units. The laws of dominance and of the purity of the parental gametes are illustrated from his own experiments on Urtica, Mirabilis, and Zea, and emphasis is given to the fact that these two laws are absolutely unrelated to each other, and that reference to them jointly as Mendel's Law is misleading.

Latency is considered at some length, but the present state of knowledge of this subject leaves much to be desired. He makes a proper distinction between latency in the sense of invisibility, and *true* latency in which there is actual inactivity of a unit that may be changed at times from a passive to an active state.

Regarding the relation between MENDEL'S and GALTON'S laws, he holds with DARBISHIRE,[12] that both are correct and the antagonism only apparent, due to the different manipulation of the data.

CORRENS still maintains that sex is fundamentally unlike the unit-characters which behave in accord with MENDEL'S laws. Touching on xenia and telegony, he holds that neither exists in the strict sense, namely that ids may escape from the germ-cells to produce modification in the surrounding maternal tissues, or to be transferred thence into subsequent germ-cells.—GEORGE H. SHULL.

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[10] MONTGOMERY, E. G., What is an ear of corn? Popular Sci. Monthly **68**: 55–62. *figs. 14*, Jan. 1906.

[11] CORRENS, C., Ueber Vererbungsgesetze. 8vo. pp. 43. *figs. 4*. Berlin: Gebr. Borntraeger. 1905.

[12] DARBISHIRE, A. D., On the supposed antagonism of Mendelian to biometric theories of heredity. Mem. and Proc. Manchester Lit. and Philos. Soc. **49**. no. 6. 1905. 19 pp.

Heterostyly in Primula.—The inheritance of heterostylism in Primula has been investigated by BATESON and GREGORY,[13] who find that there is general agreement with Mendelian expectation, the short style being dominant over the long style. A second character, a yellow flush in the center of the flower, which was found associated with an "equal-styled" condition, also proved to be Mendelian and capable of being transferred by crossing to the short-styled form. The investigation showed that whenever the yellow flush occurs in a combination in which the long style would be expected, the styles do not develop beyond the level of the anthers, thus forming the "equal-styled" type. Several aberrant results were observed, the most noteworthy being a case in which a single plant indicated a different composition of its germ-cells, according as it was used as the pollen-parent or pistil-parent.—GEORGE H. SHULL.

Asparagus rust.—SMITH[14] has published a final account of his investigation of the asparagus rust in California. One of the most important results of his work is the demonstration of the fact that the spores of this rust depend upon dew for the moisture required for germination. The more detailed account of the water relation of this rust was published in this journal.[15] This discovery suggested certain practical methods of controlling the rust, such as planting the rows with the wind and preventing weeds and other plants or trees from forming a windbreak close about the asparagus field. In other words, the field should be well ventilated. The bulletin will long continue to be the standard work of reference for information upon the subject.—E. MEAD WILCOX.

Potato scab.—HENDERSON[16] has recently published the results of his studies of the methods of control of the potato scab. He found that rolling the potato tubers in sulfur did not prevent the scab, and this is in accord with results secured by other investigators. Formalin and corrosive sublimate gave equally good results with the factor of safety in use in favor of the formalin. If treated potatoes were planted in soil in which "scabby" potatoes had grown the previous season, the scab appeared in spite of the treatment. This emphasizes the necessity of preventing new ground from becoming infected with the disease by planting none but healthy tubers.—E. MEAD WILCOX.

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[13] BATESON, E., and GREGORY, R. P., On the inheritance of heterostylism in Primula. Proc. Roy. Soc. London B. **76**:581–586. 1905.

[14] SMITH, R. E.—Asparagus and asparagus rust in California. Bull. Calif. Exp. Stat. 165:1–99. *figs. 1–46.* 1905.

[15] SMITH, R. E., BOT. GAZETTE **38**:19–43. *figs. 1–21.* 1904.

[16] HENDERSON, L. F., Potato scab. Bull. Idaho Exp. Stat. 52:1–8. 1906.